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Subject: ENERGY STAR Program Requirements for Integral LED lamps, Draft 2

The California IOUs and SMUD (California Utilities) are submitting comments in reference to the proposed ENERGY STAR Program Requirements for Integral LED lamps; Draft 2 dated May19th, 2009. The California Utilities would like to thank the U.S Department of Energy and ENERGY STAR for their commitment to Solid State Lighting and the efforts to insure the success of these new lighting sources.

We in turn invite any questions that you or your staff may have to our comments.

Dimming

We believe the public will respond better to a lamp that is fully dimmable, even if that functionality is not required in their application. It is a perception issue.

The California Utilities are in full support of an Industry standard for dimmers/controls that address compatibility with not only LED lamps but also CFL lamps and lay the ground work for future digital and electronic sources.

While overall there is a larger population of lamp sockets that are not dimmable, there has been a growing base of dimmers in California due to Title 24 code requirements, at a minimum, we should require any lamp to be “Dimmer Safe” .

We suggest that DOE and ENERGY STAR develop information in the form of fact sheets and web-content on dimmer issues and compatibility. This could include a matrix by lamp of it’s compatibility w/ dimmers, (possibly the three or four most widely used models could be used as a benchmark). In addition to the proposed Manufacturer Web-site requirement, we feel this centralized source (ENERGY STAR) for information would be much easier for consumers to locate and navigate than searching manufacturers web-sites.

Non-Standard Lamps

We agree that in this category manufacturers should be required to provide information that is limited to the specific lamp and does not try to make any equivalency statement to another lamp. We agree that a simple graphic of the beam pattern should be required on the packaging. However we are not sure if consumers will understand what this graphic means. It may require imposing the graphic of the LED beam pattern over a beam of the intended or similar lamp to be replaced.

We agree that manufacturers should identify suggested applications for these lamps on the packaging. This could also be in the form of graphics. Example may be a lamp that is intended for use in NEMA Type 5 Utility fixture, commonly known as Dusk to Dawn or Barn Fixtures.

Low Voltage MR16s

As we described with Dimmer compatibility, we suggest that DOE and ENERGY STAR provide fact sheets and web based content on the use of LED MR-16s with Electronic Transformers. We would like to see all the compatibility information available on ENERGY STAR.

We also encourage the industry to seek a common standard for electronic transformers that allow the use of any low-voltage lamp, LED or Halogen.

Reliability Testing

As we have seen early on, the reliability of the actual LED is only one part of defining the reliability of the entire LED luminaire. In replacement lamps with limited space and area to dissipate heat, the reliability of other electronic components should be an area to address. We are encouraged by the overwhelming agreement that there is a need for elevated temperature testing, burn in testing and possible adoption on common practices used in the electronics industry. If anything can set back the growth of the LED industry it will be early failures.

All Lamps

Minimum Light Output;

There is a market for Incandescent lamps used in Message signs, Scoreboards and Marquees. Will ENERGY STAR qualify omnidirectional lamps intended to replace lamps such as the 10w or 11S14? We would like to see the intended wattage lowered to accommodate this common application.

Correlated Color Temperature (CCT);

We support CCT up to 4000k. It is easier for manufacturers to get higher efficacy with at the Higher Color temperatures. We are concerned that manufacturers would qualify more products at these high color temperatures. As with CFL's, consumers have repeatedly expressed a desire for the warmer, lower color temperatures, often confusing color quality of CFL lamps with color temperature.

If ENERGY STAR was to allow higher color temperatures, we would ask that the minimum efficacy for these lamps be raised.

In addition, SCE's CTAC has recently completed a review of several directional LED lamps. Lamps with higher color temperature exhibited a greater propensity for color drift. We would ask that this be considered for further study by CALiPER.

Color Rendering Index (CRI)

The value of CRI has been increasingly debated. As an example is a higher CRI more critical for interior applications than in an outdoor application. Additionally comparing one source's CRI to another may not provide an accurate comparison. We ask that an alternative to CRI be explored that allow consumers a better metric for comparing color quality between sources.

We suggest that ENERGY STAR consider 80 CRI as the average of the eight special color rendering indices R_1 to R_8 plus add an increased value for R_9 to provide additional content for red.

Audible noise;

CFL's while dimmed have demonstrated audible noises. We have little to no experience with dimming LED's in this regard, however we would ask that lamps designated as dimmable be tested for noise through out the full dimming range.

Packaging;

Space on the packaging will be at premium for all the information required of the LED lamp. We encourage ENERGY STAR to hold manufacturers to the Lighting Facts Label and any additional requirements. For utilities, this information will be essential to the education that we must provide consumers on how to make informed buying decisions. Deviations will only add to the growing confusion on how to purchase energy efficient lighting options.

The California Utilities look forward to working together toward to bring the next-generation energy-efficient lighting option to our consumers!

Sincerely,

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On behalf of:
California Utility Lighting Program Managers